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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,201	01/04/2002	Martin L. Plumer	S01.12-0841/STL 10302	2044

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09/01/2004

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EXAMINER

KIM, PAUL D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 09/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,201

Applicant(s)

PLUMER ET AL.

Examiner

Paul D Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 2,4-8,19-22,30 and 31 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1,9-14,23,26-29,32 and 33 is/are rejected.
- 7) ☒ Claim(s) 3,24 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/4/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is a response to the restriction requirement filed on 7/1/2004.

Response to the Restriction Requirement

2. Applicant's election with traverse of Group I, claims 1, 3, 9-15, 17, 23-29, 32 and 33, in the reply filed on 7/1/2004 is acknowledged. The traversal is on the ground that all the claims as filed would not require additional searching, not place any undue burden on the patent office, including the product claims (claims 19-22) can be made by another and materially different process such as without a polishing process as per the restriction requirement mailed on 3/23/2004. This is not found persuasive. Accordingly, claim 15 (process claims) recites a limitation of polishing the first magnetic layer down to approximately the high side of the ramped step to form a beveled portion. The requirement is still deemed proper and has acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
3. Claims 2, 4-8, 16, 18-22, 30 and 31 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/1/2004.
4. Also, all the claims as filed (Group I & II mailed on 6/10/2004) would not require additional searching. This is not also found persuasive. The combination (Group I) does not require the particular of the subcombination (Group II) as claimed

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because the combination (Group I) does not require a process of forming a lift-mask on the high side. Therefore, the restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore **made FINAL**.

5. Claims 34 and 35 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/1/2004.

6. Since generic claim 15 allowable, claims 16-18, directed to the method of forming a beveled writing pole of a perpendicular writing element, previously restricted from the election of species, are now subject to bring rejoined. Claims 15-18 are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Specification

7. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A METHOD OF FORMING A BEVELED WRITING POLE OF A PERPENDICULAR WRITING ELEMENT--.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 9-12, 23, 26-29, 32 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Mallary et al. (US PAT. 4,912,584).

Mallary et al. teach a process of fabricating magnetic recording pole comprising steps of: forming a vertical step (72) having a first side and a second side as shown in Fig. 16 (as per claim 23); forming a ramped step (74) having a high side, a low side, and a ramp portion (middle portion) connecting the high side to the low side as shown in Fig. 16; forming a writing pole portion (78) on the ramped step having a top portion overlaying a beveled portion as shown in Fig. 16; and defining a pole tip of the writing pole portion having an air bearing surface and a thickness substantially corresponding to a thickness of the top portion (as per claims 26 and 28) as shown in Fig. 17 (see also col. 4, lines 29-68).

As per claims 9 and 29 Mallary et al. teach a process of trimming the ramped step and the writing pole portion from the high side to the low side to substantially a wedge point (an intersection point between the ramped step and the writing pole portion as shown in Fig. 17) of the beveled portion.

As per claims 10, 11 and 33 the ramped step is formed of an insulating material (aluminum oxide) and the writing pole portion is formed of a magnetic material (NiFe).

As per claim 12 the fabricating processes of Mallary et al. are performed in accordance with at least one thin film processing technique including ion milling (see also col. 4, lines 67-68).

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As per claim 27 a top portion of the writing pole portion is formed overlaying the beveled portion as shown in Fig. 16.

As per claim 32 a layer of material (74) is deposited over the vertical step as shown in Fig. 16.

10. Claims 1 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Das (US PAT. 5,075,956).

Das teaches a process of fabricating magnetic recording head comprising steps of: forming a ramped step (74) having a high side, a low side, and a ramp portion connecting the high side to the low side as shown in Fig. 23a; forming a writing pole portion (76) on the ramped step having a top portion overlaying a beveled portion as shown in Fig. 24a; and defining a pole tip of the writing pole portion having an air bearing surface and a thickness substantially corresponding to a thickness of the top portion as shown in Fig. 24b (see also col. 7, line 57 to col. 8, line 61).

As per claim 14 the ramp portion is sloped at an angle of approximately 45 degrees

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject

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matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mallary et al.

Mallary et al. teach all of the limitations as set forth above except a thickness and a width of the pole tip. The writing pole portion of Mallary et al. is formed with a predetermined thickness. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to form the thickness and width of the pole tip as recited in the claimed invention because Applicant has not disclosed that the brazing material as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. Therefore, it would have been an obvious matter of design choice to modify the thickness and width of the pole tip of Mallary et al. to obtain the invention as specified in claim 13.

Allowable Subject Matter

13. Claims 3, 24 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. Claims 15-18 are allowed.

Conclusion

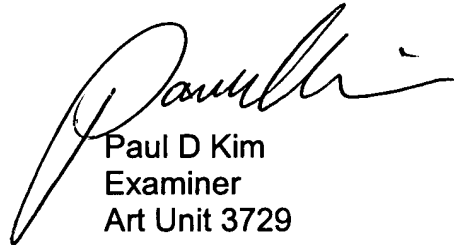
15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 703-308-

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8356. The examiner can normally be reached on Tuesday-Friday between 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Paul D Kim
Examiner
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